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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,358	03/10/2004	Mei-Yuh Hwang	M61.12-0633	4338

27366 7590 11/09/2007  
WESTMAN CHAMPLIN (MICROSOFT CORPORATION)  
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EXAMINER

JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
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2626

MAIL DATE	DELIVERY MODE
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11/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/797,358

Applicant(s)

HWANG ET AL.

Examiner

Jakieda R. Jackson

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 16 and 17 is/are allowed.
- 6) ☐ Claim(s) 7-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the Office Action mailed June 14, 2007, applicant submitted an amendment filed on September 14, 2007, in which the applicant amended and requested reconsideration.

### ***Response to Arguments***

2. Applicants argue that Coorman does not teach determining a mutual information scores for a pair of graphoneme units, comprising a first graphoneme unit and a second graphoneme unit, using the probability of the first graphoneme unit appearing immediately after the second graphoneme unit, the unigram probability of the first graphoneme unit and the unigram probability of the second graphoneme unit, each graphoneme unit comprising at least one letter in the spelling of a word.

Applicants further argue that Okimoto does not specifically teach segmenting a set of words into phonetic syllables /morphemes using mutual information scores wherein using a mutual information score comprises computing a mutual information score for two phones based on the probability of two phones appearing next to each other in the set of words and the unigram probabilities of each of the two phones in the set of words. Applicant's arguments, see remarks, filed September 14, 2007, with respect to claims 1-17 have been fully considered and are persuasive. The 102 rejections of claims 1-17 have been withdrawn.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 7-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 7-15 are drawn to a “program” *per se* as recited in the preamble and as such is/are non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361,31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure’s functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other

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claimed elements of a computer, which permit the computer program's functionality to be realized.

***Allowable Subject Matter***

5. Claims 1-6 and 16-17 are allowed.

Regarding claim 1, it recites a method of segmenting words into component parts. Prior art such as Coorman teach a similar method, but does not specifically teach determining a mutual information scores for a pair of graphoneme units, comprising a first graphoneme unit and a second graphoneme unit, using the probability of the first graphoneme unit appearing immediately after the second graphoneme unit, the unigram probability of the first graphoneme unit and the unigram probability of the second graphoneme unit, each graphoneme unit comprising at lease one letter in the spelling of a word.

Dependent claims 2-6 are rejected because they further limit their parent claims.

Regarding claims 16-17, they recite a method of segmenting a word into syllables and morphemes. Prior art such as Okimoto teach a similar method, but does not specifically teach segmenting a set of words into phonetic syllables and morphemes using mutual information scores wherein using a mutual information score comprises computing a mutual information score for two phones based on the probability of two phones appearing next to each other in the set of words and the unigram probabilities of each of the two phones in the set of words.

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***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571-272-7619. The examiner can normally be reached on Monday-Friday from 5:30am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ

November 4, 2007

  
DAVID HUDSPETH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600